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NOTICE OF ALLOWANCE AND FEE(S) DUE

49675 7590 04/16/2009

THOMAS A. GALLAGHER
107 Barclay Drive
STAMFORD, CT 06903

EXAMINER

BROWN JR, NATHAN H

ART UNIT

PAPER NUMBER

2129

DATE MAILED: 04/16/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,305	09/11/2003	David S. Warren	XSB-001	9356

TITLE OF INVENTION: METHODS FOR DETERMINING THE SIMILARITY OF CONTENT AND STRUCTURING UNSTRUCTURED CONTENT
FROM HETEROGENEOUS SOURCES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$0	\$0	\$755	07/16/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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49675 7590 04/16/2009

THOMAS A. GALLAGHER
 107 Barclay Drive
 STAMFORD, CT 06903

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/660,305 09/11/2003 David S. Warren XSB-001 9356

TITLE OF INVENTION: METHODS FOR DETERMINING THE SIMILARITY OF CONTENT AND STRUCTURING UNSTRUCTURED CONTENT FROM HETEROGENEOUS SOURCES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$0	\$0	\$755	07/16/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
BROWN JR, NATHAN H	2129	706-048000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
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4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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THOMAS A. GALLAGHER 107 Barclay Drive STAMFORD, CT 06903			BROWN JR, NATHAN II	
			ART UNIT	PAPER NUMBER

2129

DATE MAILED: 04/16/2009

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 955 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 955 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/660,305

Examiner

NATHAN H. BROWN JR

Applicant(s)

WARREN ET AL.

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the communication of January 14, 2009.
2. ☒ The allowed claim(s) is/are 1-30 and 33-38 renumbered as 1-35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Joseph P. Hirl/
Primary Examiner, Art Unit 2129

Allowable Subject Matter

1. The following is an examiner's statement of reasons for allowance: claims 1-30 and 33-38 are considered allowable since when reading the claims in light of the specification, none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims, specifically an ontology-directed classifier having means for classifying product information, an ontology-directed extractor having means for extracting product information from content contained in unstructured textual product descriptions, and an ontology-directed matcher having means for matching product information extracted by the extractor through matching product categories and attributes as disclosed in independent claims 1 and 4; a pattern expression discovery algorithm coupled to said user interface, said algorithm including means for discovering patterns of product information as disclosed in independent claim 18; means for defining the relative importance of said properties in describing said products, and means for scoring the degree of equivalence of products based on said definitions as disclosed in independent claim 33 of the instant application (as defined at pg. 48-53 of the specification of the instant application).

The following statements describe the structure, material, or acts necessary to support the means-plus-function recitation in each independent claim.

Regarding claim 1. (Currently amended) A collection of software tools embodied on a tangible computer readable medium coupled to a processor for acquiring unstructured data from diverse sources and structuring the data and/or determining similarity of content for the purpose of product information management, said collection comprising:

two or more tools selected from the group consisting of a web agent creator having means for creating a web agent to seek out and acquire product information on the world wide web (*see specification of the instant application p. 5, Examiner interprets "bots" which penetrate websites and harvest desired information to provide the means for creating a web agent to seek out and acquire product information on the world wide web.*), a web agent created by the web agent creator, the web agent having means for acquiring product information from the world wide web (*see specification of the instant application p. 5, Examiner interprets "bots" which penetrate websites and harvest desired information provide the means for acquiring product information from the world wide web.*), a web agent

manager having means for managing said web agent (*see specification of the instant application p. 34*, Examiner interprets allowing the user to add, delete, and schedule agents to run at user specified times and with a given regularity; and to specify the input and output of the completed agent tasks and have them presented and stored in a structured and coherent fashion on the user's desktop provides the means for managing said web agent.), an ontology-directed classifier having means for classifying product information (*see specification of the instant application p. 42-43*, Examiner interprets the UNSPSC taxonomy is a classification system to guide global commerce to provide means for classifying product information.), an ontology-directed extractor having means for extracting product information from content contained in unstructured textual product descriptions (*see specification of the instant application p. 70*, Examiner interprets extraction on large amounts of data performed using the ODE Launcher to provide means for extracting product information from content contained in unstructured textual product descriptions.), and an ontology-directed matcher having means for matching product information extracted by the extractor through matching product categories and attributes (*see specification of the instant application p. 48*, Examiner interprets cone(s) that the ODC returns for

products and services having matching description to provide means for matching product information extracted by the extractor through matching product categories and attributes.), the tools providing a tangible result selected from the group consisting of a web agent having means for acquiring product information from the world wide web, classified product information, product information extracted from content contained in unstructured textual product descriptions, and information matched with product categories and attributes (see specification of the instant application pp. 41-45, Examiner interprets OMS to provide means for acquiring product information from the world wide web, classified product information, product information extracted from content contained in unstructured textual product descriptions, and information matched with product categories and attributes.).

Regarding claim 4. (currently amended) A collection of software tools embodied on a tangible computer readable medium coupled to a processor for acquiring data from diverse sources and/or structuring the data and/or determining similarity of content for the purpose of product information management, said collection comprising:

two or more tools selected from the group consisting of a web agent creator having means for creating a web agent to seek out and acquire product information on the world wide web (see *specification of the instant application p. 5*, Examiner interprets "bots" which penetrate websites and harvest desired information to provide the means for creating a web agent to seek out and acquire product information on the world wide web.), a web agent created by the web agent creator, the web agent having means for acquiring product information from the world wide web (see *specification of the instant application p. 5*, Examiner interprets "bots" which penetrate websites and harvest desired information provide the means for acquiring product information from the world wide web.), a web agent manager having means for managing said web agent (see *specification of the instant application p. 34*, Examiner interprets allowing the user to add, delete, and schedule agents to run at user specified times and with a given regularity; and to specify the input and output of the completed agent tasks and have them presented and stored in a structured and coherent fashion on the user's desktop provides the means for managing said web agent.), an ontology-directed classifier having means for classifying product information (see *specification of the instant application p. 42-43*, Examiner interprets the UNSPSC

taxonomy is a classification system to guide global commerce to provide means for classifying product information.), an ontology-directed extractor having means for extracting product information from content contained in unstructured textual product descriptions (*see specification of the instant application p. 70*, Examiner interprets extraction on large amounts of data performed using the ODE Launcher to provide means for extracting product information from content contained in unstructured textual product descriptions.), wherein said web agent creator includes a web browser user interface, a pattern expression discovery algorithm coupled to said user interface, a results editor coupled to said user interface and said pattern expression discovery algorithm, an agent generator coupled to said user interface and said results editor, and a form value editor coupled to said user interface and said agent generator the tools providing a tangible result selected from the group consisting of a web agent having means for acquiring product information from the world wide web, classified product information, product information extracted from content contained in unstructured textual product descriptions, and information matched with product categories and attributes (*see specification of the instant application pp. 41-45*, Examiner interprets OMS to provide means for acquiring product

information from the world wide web, classified product information, product information extracted from content contained in unstructured textual product descriptions, and information matched with product categories and attributes.).

Regarding claim 18. (currently amended) A web agent creator embodied on a tangible computer readable medium coupled to a processor for creating a web agent to acquire product information from the world wide web, said web agent creator comprising: a web browser user interface, a pattern expression discovery algorithm coupled to said user interface, said algorithm including means for discovering patterns of product information (*see specification of the instant application p. 42*, Examiner interprets the properties of the hierarchy of classes to extract attribute-value pairs from free flowing text used by the ODE to provide means for discovering patterns of product information.), a results editor coupled to said user interface and said pattern expression discovery algorithm, said results editor having means for editing product information (*see specification of the instant application p. 58*, Examiner interprets the ODE Constructor which allows the user to add relationships representing the properties that the given class might have, add

domain information for the relationships, and add abbreviations and replacement rules with a simple GUI interface to provide means for editing product information.),
an agent generator coupled to said user interface and said results editor, said generator having means for generating said web agent having characteristics determined by said algorithm (*see specification of the instant application p. 27*, Examiner interprets DOM events which determine what the user is doing to provide means for generating said web agent having characteristics determined by said algorithm.), and
a form value editor coupled to said user interface and said agent generator, said form value editor having means for setting parameters of said web agent (*see specification of the instant application pp. 26-27*, Examiner interprets the "user interface 12" to provide means for setting parameters of said web agent.)
said web agent creator providing the tangible result of a web agent executable on a processor which together acquire product information from the world wide web.

Regarding claim 29. (currently amended) An ontology directed classifier embodied on a tangible computer readable medium coupled to a processor for use with an ontology management

system including means for managing product information, said ontology directed classifier comprising:

means for receiving a product information related taxonomy as input (*see specification of the instant application p. 42*, Examiner interprets the properties of the hierarchy of classes to extract attribute-value pairs from free flowing text used by the ODE to provide means for receiving a product information related taxonomy as input.); and
means for generating a tree of product information classes and subclasses as tangible output for use by the ontology management system to classify product information (*see specification of the instant application p. 42*, Examiner interprets the properties of the hierarchy of classes to extract attribute-value pairs from free flowing text used by the ODE to provide means for generating a tree of product information classes and subclasses as tangible output for use by the ontology management system to classify product information.).

Regarding claim 33. (currently amended) An ontology directed matcher embodied on a tangible computer readable medium coupled to a processor for use with an ontology management system to

match similar products using product attributes and their values, said ontology directed matcher comprising:

means for describing products based on a structured set of properties (*see specification of the instant application* p. 43, Examiner interprets the UNSPSC taxonomy which is a classification system to guide global commerce, the OMS using a class relation representing a 8 digit hierarchical schema consisting of 4 levels in the hierarchy to be a means for describing products based on a structured set of properties.);

means for defining the relative importance of said properties in describing said products (*see specification of the instant application* p. 41, Examiner interprets ontologies to be a means for defining the relative importance of said properties by their placement in the hierarchy in describing said products.); and

means for scoring the degree of equivalence of products based on said definitions (*see specification of the instant application* p. 41, Examiner interprets ontologies to be a means for scoring the degree of equivalence of products based on said definitions.) said matcher producing the tangible output of a listing of products paired with scores.

2. A practical application for the invention is disclosed on page 5: 'creating web agents or "bots" which penetrate websites and harvest desired information'.

3. The claimed computer readable medium has been interpreted as being a tangible machine readable memory medium of the "queriable database" (as disclosed at pg. 4, lines 22-24).

The Prior art of reference *Embley*, "Ontology-Based Extraction and Structuring of Information from Data-Rich Unstructured Documents", 1998 discloses an ontology directed extractor embodied on a computer readable medium for use with an ontology management system and for extracting product information attributes and their values using an "ontology based" methodology to comprise ontology management system designed to manage product information and extracting product information attributes and their values.), said ontology directed extractor, comprising: means for receiving an unstructured text description about a product as input, and means for producing a set of structured property values about the product as output, wherein said structured property values are structured by ontology relationships.

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The Prior art of reference *Oracle*, "Oracle Express Web Agent User's Guide", 1999 in view of *Collis et al. (Collis)*, "The Zeus Agent Building Toolkit ZEUS Technical Manual, Release 1.0", September 1999 and further in view of *Embley* discloses a collection of software tools embodied on a computer readable medium for acquiring data from diverse sources and/or structuring the data and/or determining similarity of content for the purpose of product information management, wherein: two or more tools selected from the group consisting of a web agent creator for creating a web agent to seek out and acquire product information on the world wide web, a web agent created by the web agent creator, the web agent capable of acquiring product information from the world wide web, a web agent manager.

Neither *Embley*, *Oracle*, nor *Collis* teach an ontology-directed classifier having means for classifying product information, an ontology-directed extractor having means for extracting product information from content contained in unstructured textual product descriptions, and an ontology-directed matcher having means for matching product information extracted by the extractor through matching product categories and attributes; a pattern expression discovery algorithm coupled to said user interface, said algorithm including means

for discovering patterns of product information; means for defining the relative importance of said properties in describing said products, or means for scoring the degree of equivalence of products based on said definitions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

/Nathan H. Brown, Jr./

Examiner, Art Unit 2129

/Joseph P. Hirl/

Primary Examiner, Art Unit 2129